

METHOD FOR MAKING RESIN BONDED ABRASIVE TOOLS

ABSTRACT OF THE DISCLOSURE

A method for producing organically bonded abrasive article includes combining an abrasive grain component and a phenol-based resin component. The combined components are molded and thermally cured in an atmosphere that comprises humidity, wherein the atmosphere contacts the molded components, thereby producing the organically bonded abrasive grain. The abrasive grain optionally can first be combined with an organosilicon compound, to form organosilicon-treated abrasive grain, and then with the phenol-based resin component. In one example, the phenol-based resin is thermally cured in the presence of steam. Abrasive articles produced by the method of the invention generally have improved properties under wet grinding conditions. In one example, an abrasive article produced by the method of the invention includes ammonia in an amount less than about 50 ppm. In another example, an abrasive grinding wheel produced by the method of the invention has a strength retention greater than about 57 percent.

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